

Go Wireless and Paperless

and Accomplish More

Wireless and Paperless

- The Mobile Inspector:
Case Study in Greensboro, NC
- Opportunities in Public Works
- The Wireless Network
- Wins and Losses

Case Study: Greensboro, NC

The Mobile Inspector

City of Greensboro: Building Inspections

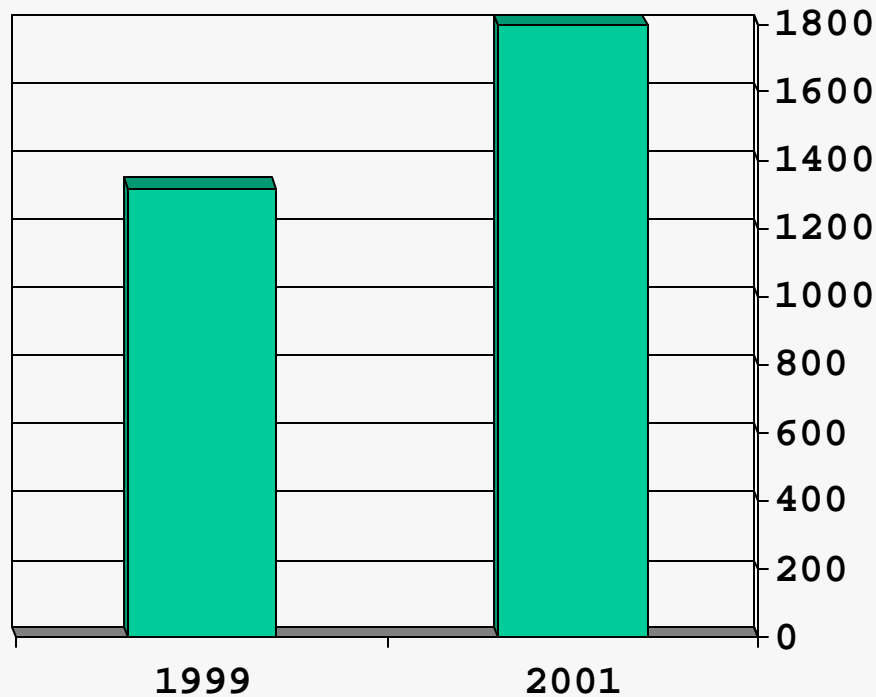
April, 1999

- 24 Inspectors
- Service 9:30 am to 4:00 pm
- 86,000 Inspections Annually

September, 2001

- 24 Inspectors
- Service 8:15 am to 4:45 pm
- 114,400 Inspections Annually

City of Greensboro: Building Inspections



37% Increase in
Time Inspectors are
Available

Hours Inspecting: Annual Per Inspector

The Savings

Annual Savings per Inspector

- 2 Hrs/Day
- 480 Hrs/Year

For a Division of 24 Inspectors

- 48 Hrs/Day
- 11,520 Hrs/Year

6 Inspectors

The Benefits

Savings Per Year

(6 Inspectors @ \$61,600 Ea.)
less \$91,200 Cost
= \$278,400 Savings per Year

Savings Per Inspector
= \$11,600 per Year

Wireless Opportunities for Public Works

The Cost to Go Wireless

Start-Up

\$36,000

Programming for
Wireless
Applications

Annual Budget

\$91,200

for 24
Computers,
Network
Charges,
Cellphones -
Data and Voice

Remote, Roaming Employees?

- Do they have or need up-to-date information?
- Do they spend a lot of time on the phone?
- Must they come to the office just to pick up paperwork or work assignments?

Using Real-time Data?

- Do many “customers” want up-to-the-minute information RIGHT NOW?
- Can your organization respond in Real-time?

Need Fast Response?

- Do you have staff hunting for information that could be available on-line? Or on the network?
- Or on their personal computer?

Facing Expensive Wiring for Networks?

Hardwired:

- \$290 per ethernet plug connection

Wireless:

- (20 users):
\$1,800 Antenna
+ \$200 pcmcia network card
- \$290 per user

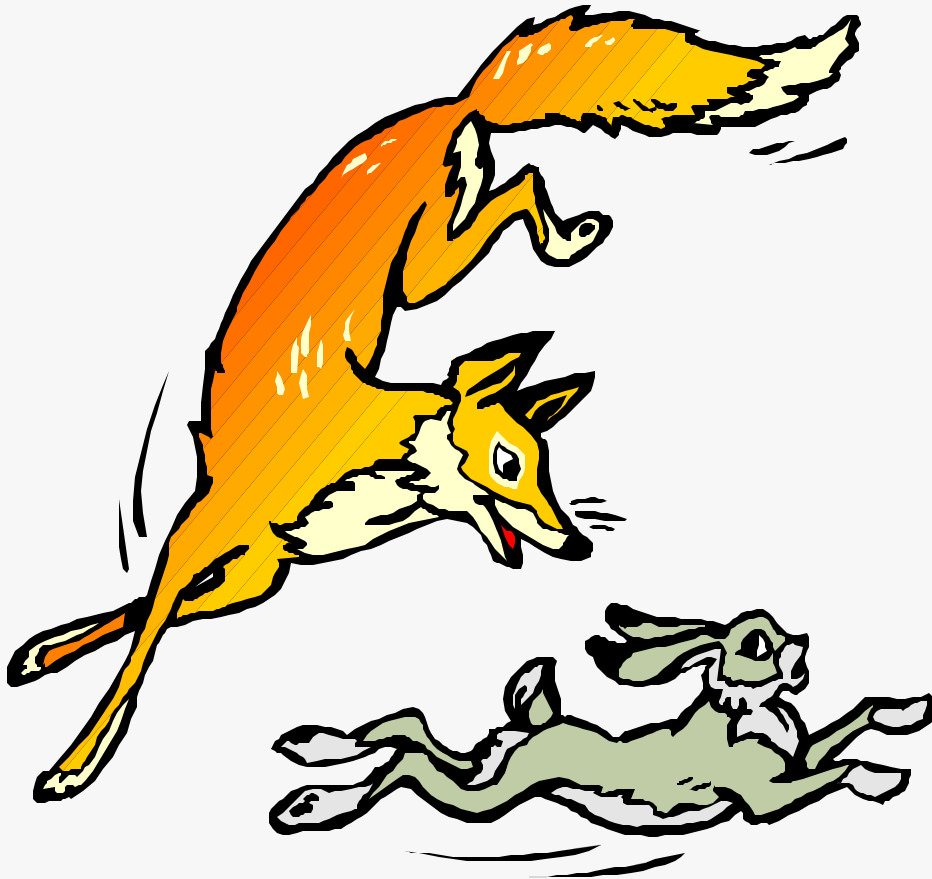
Already Using Cellular Phones?

- Can messages be sent by email over the phone?
- Can the phone be used with an automated voice response system?

"Double Entry" Paperwork?

- Does one employee write down their information so that another can enter it into a computer?
- Who is doing data entry?
Everybody?

The Wireless Network











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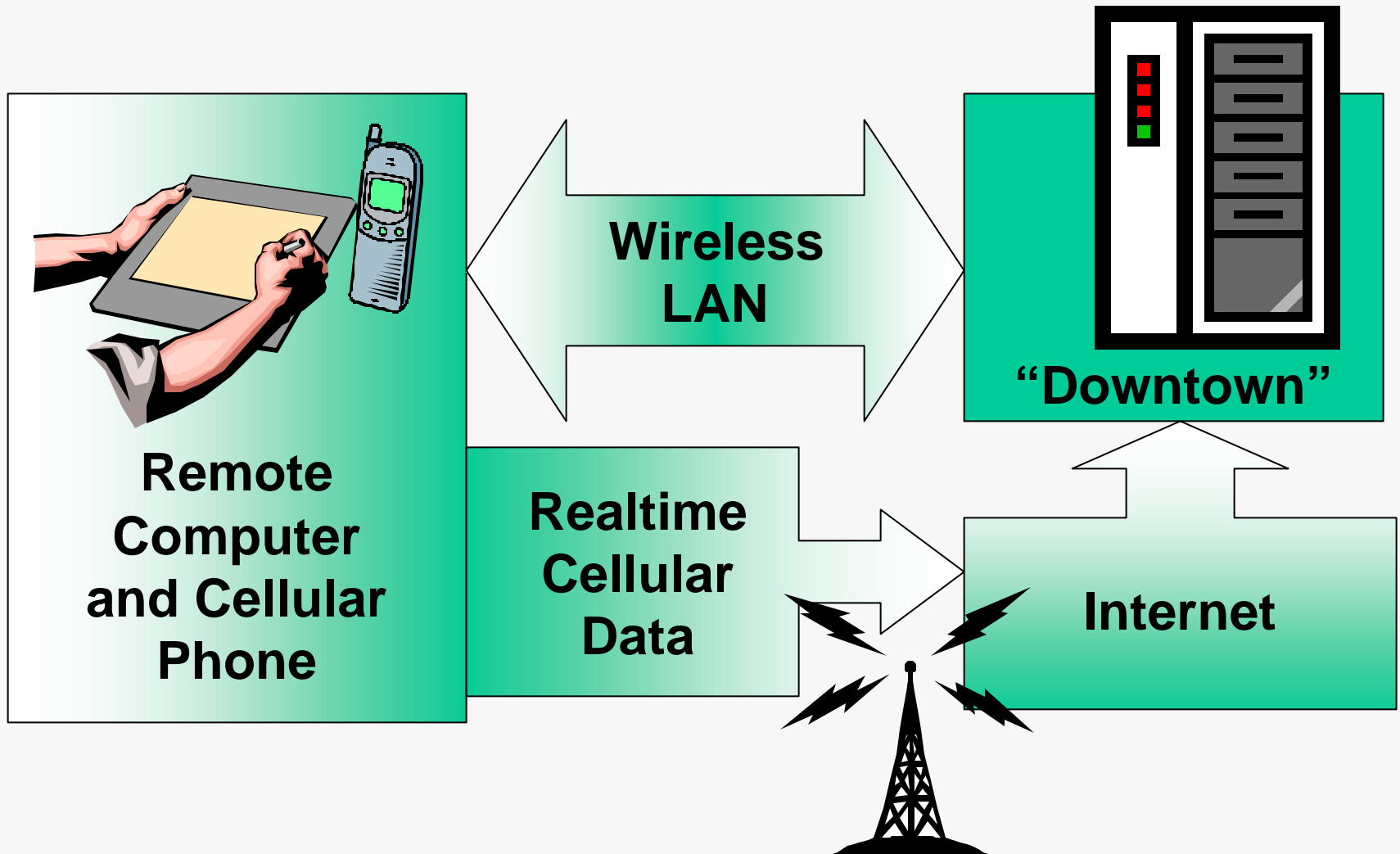


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The Wireless Network

Cellular Phones
Wireless LAN

The Wireless Network



The Wireless Network: Cellular Phones

Voice

- Emergency Contact
- Meetings

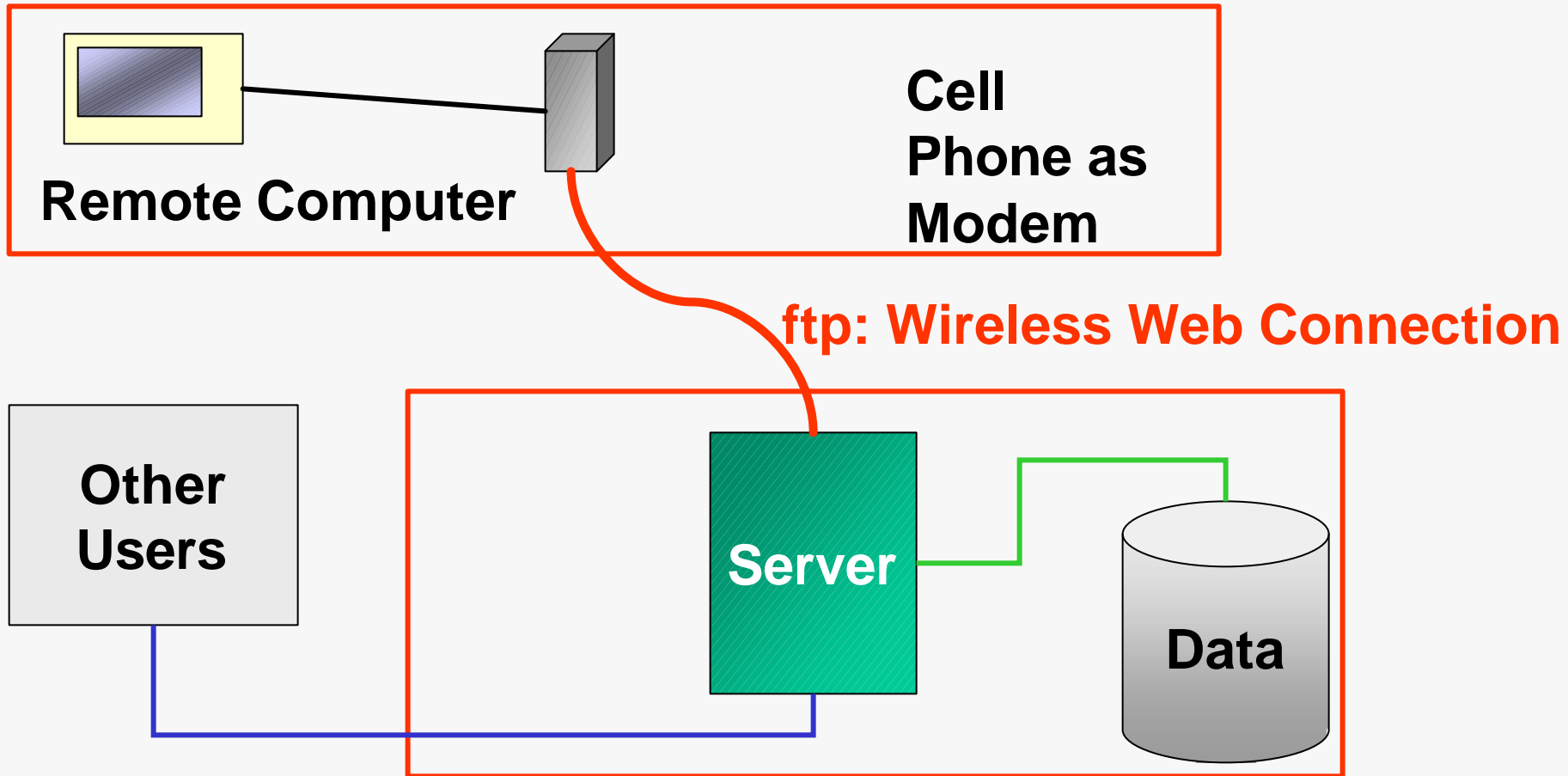
Data

- File transfer
- Data transfer
- Web Access

The Wireless Network: Wireless LAN

- Networks Allow Devices to Communicate
- More Importantly, they allow Sharing of Information
- The Wireless Network Allows Communication from Remote Locations

ftp: Internet Connection

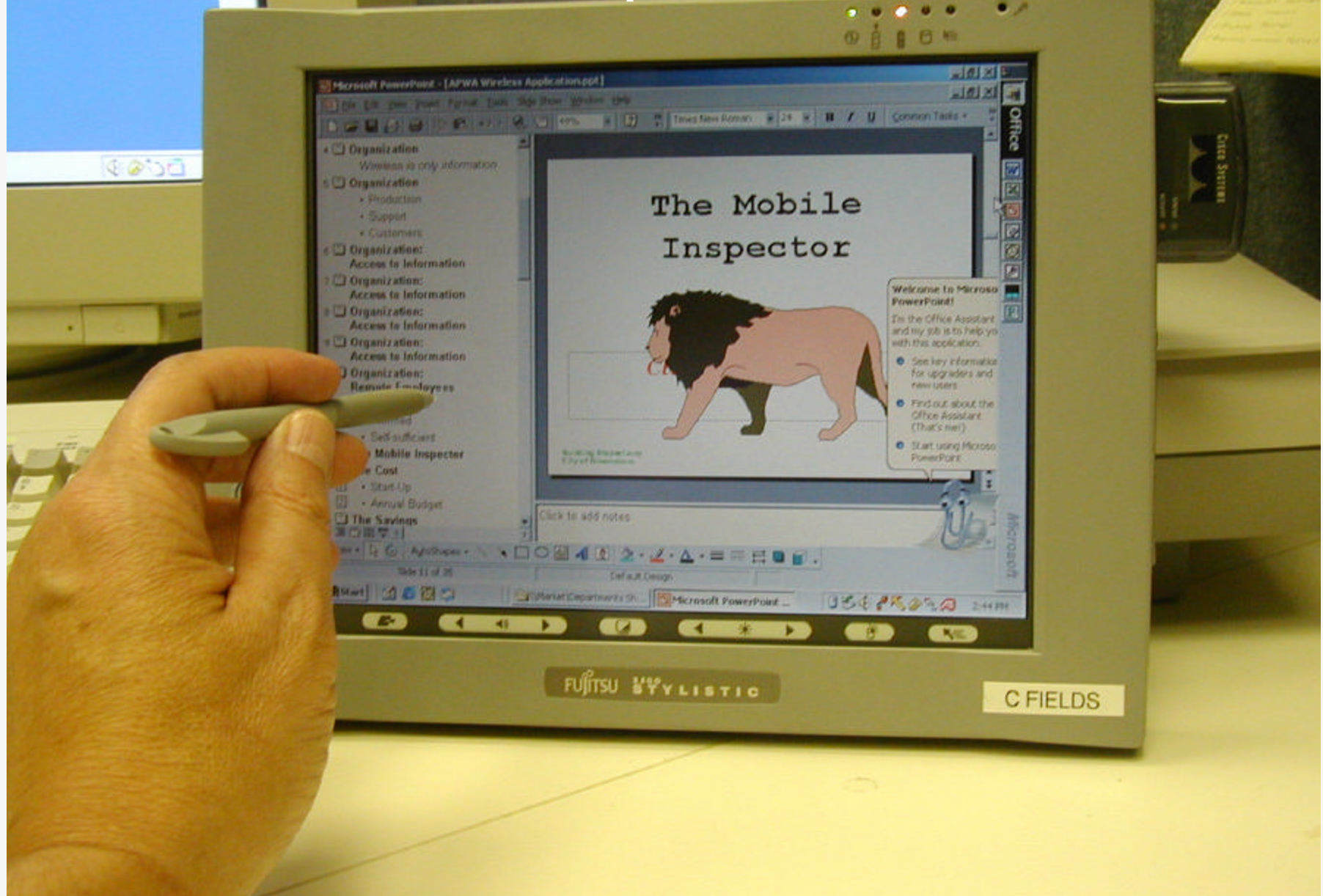


Hardware:

Personal Computers

- Fujitsu Pen Computers
- 128MB SDRAM
- 15GB Hard Drive
- Windows 2000

Pen Computer with Network Card



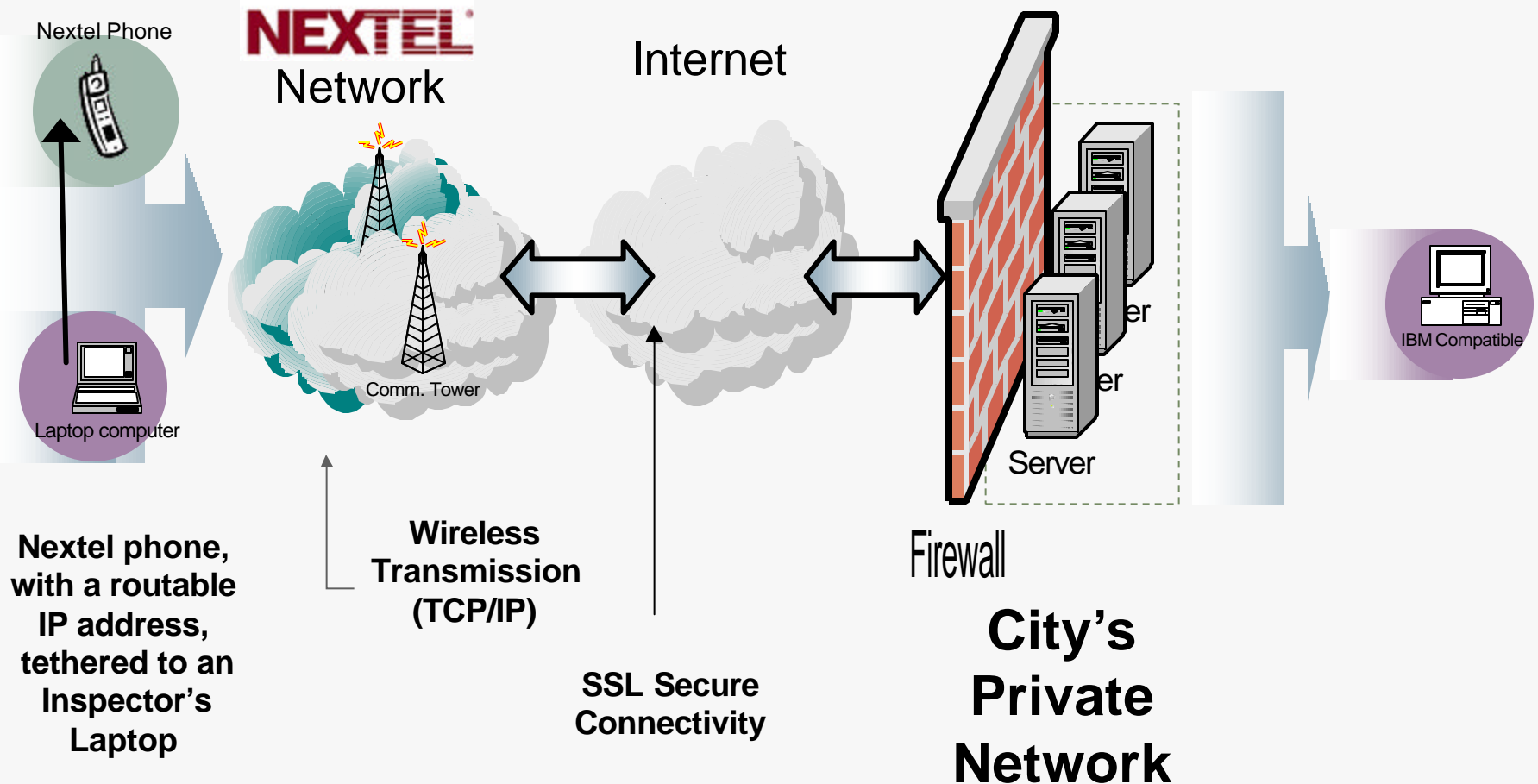
Hardware:

Cellular Phones

- Nextel Cellular Phones:
i700 Plus
- Rugged case
- Digital, Web enabled, Text messaging
- IP addressable



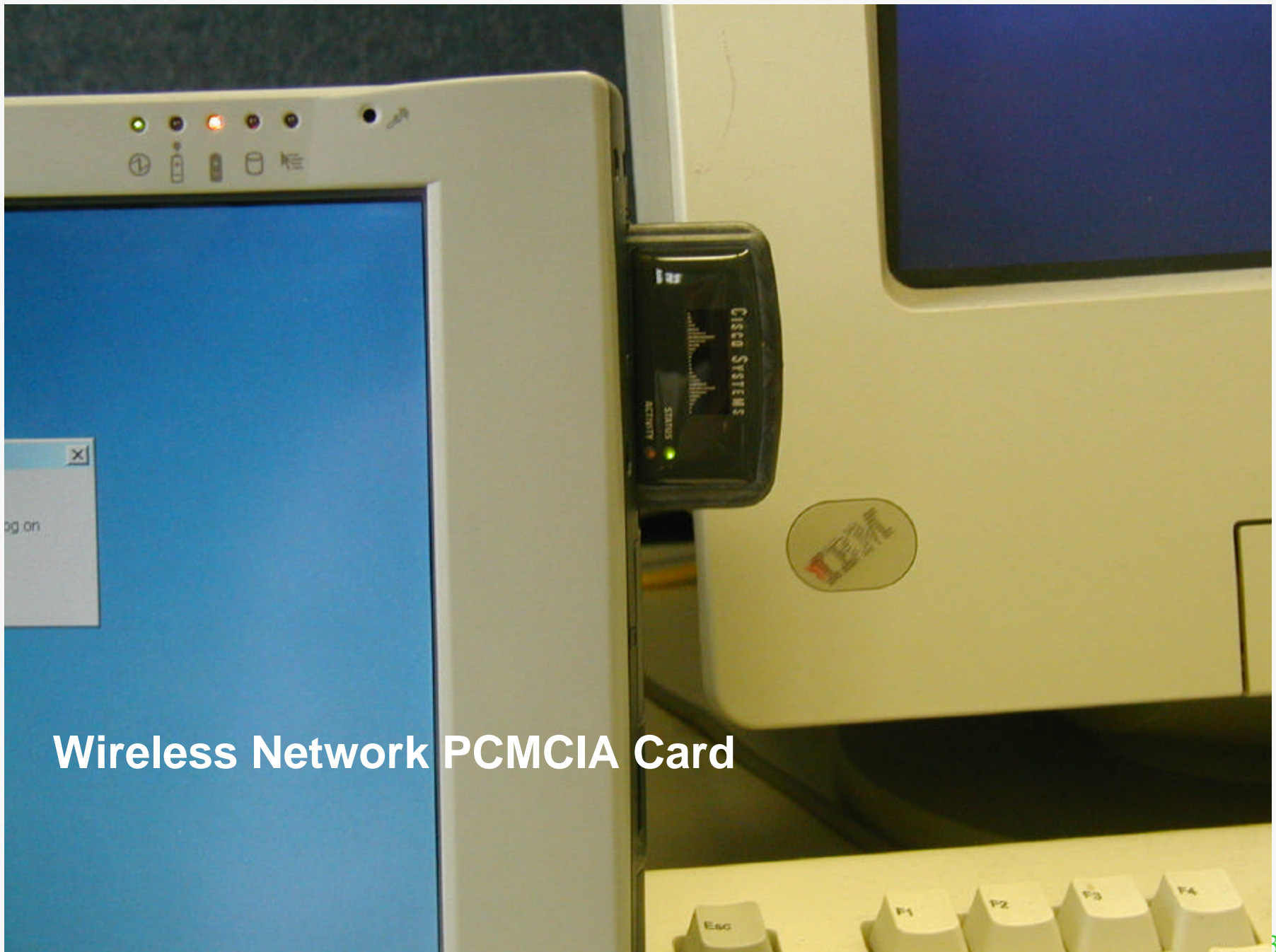
Nextel Packet Data Topology



Hardware:

Wireless LAN

- Wireless pcmcia cards in each computer: Cisco System's Aironet 340
- Antennas at every "hub"
- Access Point: Antenna connection to LAN
- 15-20 Users per hub
- 11 Mb/sec throughput

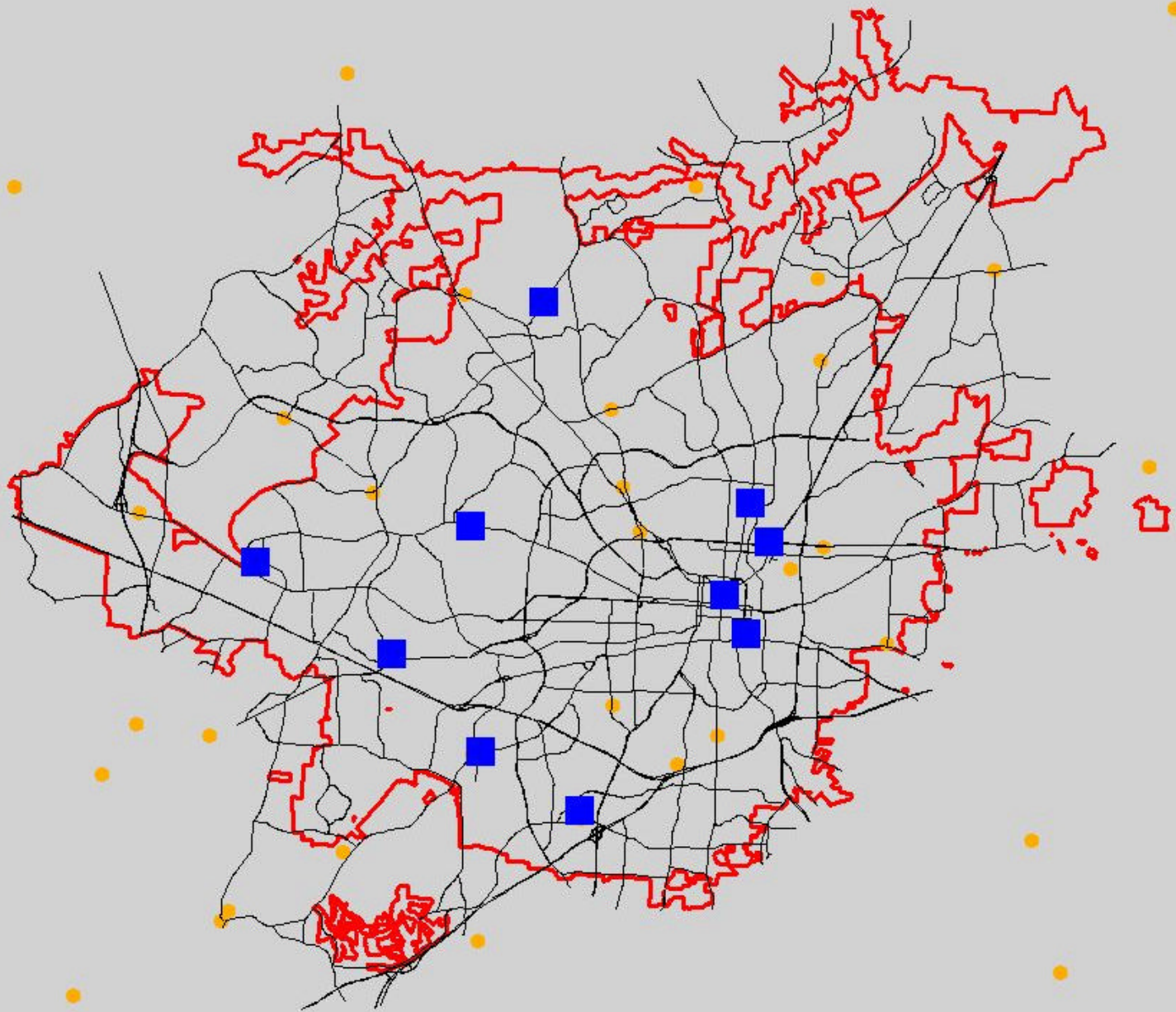


Wireless Network PCMCIA Card



Access Point and Antenna above it





Software

Network
Database
Applications

Software: Networking

- Microsoft's Windows NT on Network Servers
- TCP/IP
- Microsoft's Exchange for Mail and Calendars

Software: Database

- Microsoft's SQL Server 7
- Windows NT Server
- Remote units with SQL 7 Desktop Version
- Synchronizing Remote and Server Databases
- 280 Mb Database

Software:

The Applications

- PC-to-Phone, SLIP connection
(Phone as modem)
- ftp: Send File to -or- Receive
File from Server
- Update Database
- Distribute Data to Other Users

Security

- LANs
- Cellular Data: 128 bit encryption in Nextel network
- The PC or Device's Security
- 128 bit encryption in our Cisco units
- ID's for each connecting card

Wins and Losses

Wins

- Productivity
- Customer Appeal
- Employee Professional Growth
- Less Drudgery

Losses



- “Belonging” :
Teamwork
- Reliability
of Cellular
Data
Messaging

Questions?

Go Wireless and Paperless

Sources

- Nextel
Communications
www.nextel.com
- Fujitsu PC
www.fujitsupc.com
- Cisco Systems
www.cisco.com

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